November 29, 1999

Dear Friends:

I have enclosed Milestone Technologies' fall catalog with this issue. After you have perused it for your Christmas wish list, be sure to file it away for future reference - it will be a valuable reference in the future.

Per my editorial in Keyletter #28, I am formalizing the subscription system and raising the price from $1 to $2 per issue for U.S. subscriptions, $2.50 for Canadian subscriptions, and $3.00 for all others. I reviewed my mailing list database and applied a charge of $1 per issue for issues 1 through 28 and the appropriate new rate for all after #28. **Please check your mailing label - if the number after your name is 29 or lower you need to make a donation to keep receiving the Keyletter!** If the number after your name is 28 or less, the dollar amount after it is the amount that you are in arrears. I request a donation to bring the account current, and enough in addition to cover at least five more issues. If there is an "X" after your name you are paid through an exchange subscription or some other means. I have kept careful track of monies received over the years, but there is always the chance that I made an error. Please let me know if you disagree with my computations!

I received a lot of positive feedback on my editorial in the last issue, so I decided to create the email mailing list. I sent e-mail notices to all subscribers, but received a number of "bounces", so please accept my apologies if you did not receive a notification. To subscribe, send an e-mail message to "majordomo@qth.net". The text portion of the message should only say "subscribe morsecode" (without the quote marks, of course). We have handled several thousand messages already, and I have gleaned a lot of information for the Keyletter.

The most significant work done too date on the mailing list is Russ Kleinman's spark keys list. Both Russ and I tried to research spark keys in the past with little luck. Something really clicked when Russ made a request for information on MORSECODE and other mailing lists. Within three weeks he had put together a listing of all known spark keys and photos of most of them. I downloaded the list, and edited it for the Keyletter. The full text and photographs of most of the keys can be viewed at Russ Kleinman's web page at http://www.zianet.com/sparks/sparkkeys.html. The following is a download of the main list.

The Sparks Telegraph Key Review Spark Key Project. A Cooperative Effort by Collectors and Historians Worldwide.

The following represents a summary of known spark telegraph key manufacturers. It has been difficult to differentiate between early key manufacturing companies, companies which were solely wireless operating companies and did not manufacture keys, and companies which only distributed keys. The distinction is frequently blurred, since some companies functioned as manufacturers, operating companies and also as distributors. If I could not document that a company actually produced spark keys, I did not include it on the list. For instance: Clark, Continental, Nesco, Wireless Specialties Co. and Westinghouse companies do not appear on the list. Much of this information is sketchy and will have to be filled in as further research is accomplished. Please e-mail any information you have to sparks@zianet.com, or send it to Russ Kleinman, 25 Oxbow, Silver City, NM 88061.

Home-brewing of spark keys was a very common practice, and design drawings were even published in QST. Unfortunately, many commercial spark keys were not labeled by the manufacturer, and it can be hard to tell a good job on a homebrew key from a commercially made one.

Company Name	Approx. Years Made	Location	Comments
American DeForest	1901-1914	New Jersey	Operating company & full line under different names. See Mayes.[1] Large 10 KW key.
American Sales Co.	1925	New York	Brass wireless keys for 95 cents, 3/16" contacts. One of few spark keys mounted on a wooden base (they catch fire!) Possibly just a distributor? Looks identical to a J-3 (trench telegraph), probably surplus being sold as spark.
Atlantic Radio Co., Inc	1921	MA & ME	Subsidiary of Telefunken.
Bowman, A.W.	1911-1922	Cambridge MA	Marked and unmarked on marble base. Supplier to Sears, Montgomery Ward.
Braun-Siemens-Halske	1901	Germany	Heavy handled keys. Complete sets to U.S. Navy. Merged in 1903 with Slaby-Arco to form Telefunken.
British Air Ministry	ca. 1918	England	Typical brass British style spark key
British Admiralty Pattern	1920-1930?	England	Probably late and even after CW, perhaps used as backup to main CW rig. Clamp-type binding posts.
Brown, S.G.	?	London	Flameproof key used in airplane. Very large 13" heavy spark key with triple detector in rotary holder.
Bunnell, J.H.	1915?-1926+	New York	At least 5 different spark key models, including a "Cootie" type key, a small brass key with cutout corners, a small key on composite base, a key advertised as the "Jove Wireless Key" and the Straight Line Radio Key advertised 1919.
Central Scientific Co.	1917	?	"Boston" pattern wireless key shown in Hawkins Electrical Guide, USA 1917. Looks like Boston Key of Clapp-Eastham, except parts are brass on polished marble. See inside back cover MM47, August 1996.
Chambers, F.B.	1912-1920s	Philadelphia PA	Nickel plated brass spark key, rotary gap, loose coupler
Clapp-Eastham	1915-?	Cambridge MA	The Boston Key and receivers. Boston Key on marble or composite base, range of contact sizes. Blitzen key (see Keyletter page 260), a smaller key on oval base. Repro. 1993 by Indux Corp. (K. Vanslette), Ormond Beach, FL.
"Cootie" Key	ca. 1920	----	Distributed by Young & McCombs of Rock Island, IL. (incorporated 1910, sold general merchandise). But made by Bunnell, Tri-City and probably others also. Essentially a spark sideswiper.

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[1] Mayes, *Wireless Communications in the United States*.

Doron Bros.	1910-1915	Hamilton, OH	Marble based spark key with heavy lever
Duck, Wm. B.	ca. 1917	Toledo, OH	Small cross-shaped marble-based key. Possible ties with RECO? "Overland Key" available in several current ranges.
Ducretet and Roger	1901-1919	Paris, France	Oil-break flameproof key for aircraft use and regular models
Eastern Precision Elec.	1921	New York	Advertised key in QST, this key has bulky parts on marble base
Electrical Specialty Co.	1921	Columbus, OH	1 KW Triumph style key
Electro Importing EICO	1904-1915+	New York	"Electro" Wireless Key (glass base)
Elliott Electric Company	1917	Shreveport, LA	From ad in QST. Bakelite and brass, $5!
Electro-Set Co.	1916	Cleveland, Ohio	Advertised in the Electrical Experimenter, the "Electro-Set Special Wireless Key" is similar to Duck and United Wireless but is the only marble base spark key with lantern style binding posts and cross frame.
Federal Tel. Co.	1909-1920	Palo Alto, CA	Actually arc sets and keys, but a drawing exists of a Fessenden oil break set. It is common to mistake keys used with arc transmitters, and Alexanderson transmitters as spark keys, especially those marked auxiliary. Type 496. Large key on Bakelite, probably arc.
French Army (supplied by?)	?	France	French Army spark key with 8 mm contacts.
General Radio Co.	1915	Cambridge MA	Heavy duty combination spark key and spark relay in one unit CAG 457. Type No. 151 flame proof aircraft key (10 amp). Looks like (but isn't) J-5-A. Also model with cooling fins on both upper and lower contacts.
Independent Wireless	?	?	Type K-1 2 KW Hand Key
Kilbourne and Clark	ca. 1910-1920	Seattle, WA	SE-68, a "cross" type, one that looks like the Lowenstein Radio SE-923, a Bakelite base key with a slender lever, and a brass key with strongly down-turned lever.
Lemkuhl	?	Germany (?)	Large key labeled with "LEMKUHL" and a logo "L".
Liberty Electric	1916	Port Chester, NY	SE-68A SE-988.
Lowenstein Radio Co.	1918	Brooklyn, NY	At least 2 models, SE-923 also SE-68.
M.A.E.S.	?	Trevoux, France	Ebonite base, heavy levered key with large contacts. See MM56 February 1998 pg. 32.

Mach. Div. Boston Navy Yard	ca. 1915	Boston, MA	SE-68A which is one of the most common of the larger spark keys found, SE-144 flameproof
Marconi (American--Marconi's Wireless Telegraph Co.)	1899-1919	New York	CM425; 5KW Signal Corps 1917; 5KW Navy Dept. SE-179 1917; CT-1576 key w/circuit switch; SE-482 CM 408 5KW Relay Key; Roadmap. SE-68. Type A No. 217 (like United Wireless, 4KW); No. 205 2KW key (cost $2.00). Others models without ID exist; At least 2 Weingarten repros. Succeeded by RCA. SE-86 (1KW).
Marconi (British)	1897-1920s	Chelmsford England	Many models, no ID. Grasshopper key. Another British version with no Model No.
Marconi (Canadian)	1902-1920	Montreal, Quebec	Operating company only until 1912. Type 701 and 702 key and probably others
Massie	1905-1909	Rhode Island	Operating Company and large handled key-- more repros by Phil Weingarten exist than originals probably, and few or none were labeled. One Massie oil break known to exist. One or two other Massie keys reported to exist.
McIntosh Electric	?	Chicago, IL	Bent metal trunnion on composite base, some with label. Others with similar construction but look like they have mounting screws and belong to a larger piece of equipment and have no label.
Manhattan Electric Supply Co. (MESCO)	ca. 1918	New York	Mesco Hand Radio Key with replaceable contacts, rated at ½ KW (a fancy triumph key look alike). Also the Mesco Jr. Wireless Key and the #51 key, all small keys.
Murdock, William J.	founded 1896	Chelsea, MA	Marble base, 1/4" contacts, only one model of spark key apparently made by this company that also produced headphones etc into the '20s & radio receivers to about 1985!
Nanao Musen Denki	?	Japan	Glass base key with heavy British style influence.
RCAF	ca. 1917	?	RCAF key No. 10A/556
Radio Engineering Co.	ca. 1920	Baltimore, MD	RECO. Similar to Boston Key. Possibly only distributed for Clapp-Eastham. Relationship to Duck?
Robertson Clock and Instrument Co.	ca. 1921	Detroit, MI	Oil break key
Russell and Stoll	prob 1920s	New York	One model, brass parts on heavy black base, brass parts similar to smaller Bunnell
Rochefort	ca. 1901	France	Early competitor for USN contracts
Rouzet?	?	France	Key used in airplanes with spark transmitter system "Rouzet" (rotary spark gear).
Signal Electric Mfg Co	ca.1922?-1928+	Menominee MI	Common small brass keys with mica (Isinglass) underneath. Distributed by Radio Specialty Co. and undoubtedly others.

Slaby-Arco	ca. 1900	Germany	Early competitor for U.S. Navy contracts. Key with large vertical handle, similar to drawing in Robison's manual.
Telefunken	1903	Germany	Apparently did not label spark keys, but from catalogue at least one model known to be by Telefunken, a heavy key with distinctive appearance and labeled "H.T.3 No. 3362"
Tri-City Radio Labs	ca. 1915-1921	Rock Island, IL	Cootie key. Managed by R.K. Karlowa of Davenport, IA.
United Wireless	1906-1912	New York and Seattle	Succeeded by Marconi Wireless Tel Co. Cross-shaped keys. Also very large operating company. Most keys not labeled. Some keys were lighter and smaller, others quite large. On marble and slate bases.
V.L.	?	France	French Navy oil break key on wooden base. Only markings are "V.L." and sparks.
Wallace & Co.	ca. 1912	New York	Wireless key # 4281, ½ KW. Small, composite base.
Wash. Navy Yard	1914	Wash. DC	One example of oil break key exists made by the Radio Test Shop (Bu.S.E.).
Wireless Specialty Apparatus Company (Col. John Firth)	1907-1912	Boston, MA	Succeeded by United Fruit Co. Q-S-5004, Q-S-505, SE-68A, SE-653, very similar to the Q-S-505. 2 KW Aux. Hand Sending Key. 1 KW Flameproof Type NS 1917, smaller all metal key. CP-675 designed in 1917 by Cutting and Washington and made by WSA.

Wrecking Box. Tom Perera made a posting on MORSECODE about a recently acquired "wrecking box". Detailed photos are on Tom's web page at:< http://www.chss.montclair.edu/~pererat/m1000.html > (Item 212) I found the exchange between Tom and Ed Trump to be extremely interesting:

> Ed: Would it be possible to have you make a copy of the blueprint that shows the polehead diagrams in the wrecking box? Even a rough sketch of the pole heads and any info therewith would do. I am very interested in where that box came from, and would like to examine the polehead diagrams if there is some way to do it. The box resembles one found in an old outfit car that was being scrapped at Roper Yard, D&RGW [Denver & Rio Grande Western] RR, in Salt Lake City, Utah, when I worked there circa 1968. There was a nearly identical instrument in it, all of which of course immediately disappeared into the private collection of some official in the "Head Office", never to be seen again by the likes of us lowly working types. That particular box also contained, in addition to flexible wire, and the wrecking clamp, a file (for scraping the crud off the wire before making connections) and a pad of train order "flimsies".
>
> Tom: It sounds as though it came from the same railroad since the bottom of the blueprint says D&RG RR. There is one more polehead hand-written on the back of the blueprint and labeled: Colo Springs & Eden 4/16/1900 which must have been added late in it's life. Can you tell us all about this kind of box and how they were used??
>
> Ed: Many thanks for putting the views of the pole head diagrams up on the web. As you can see, they are off the D&RG RR in the Denver-Pueblo-Walsenburg-La Veta Colorado area and some of the branches that ran off the main line. My suspicions are confirmed! That box is obviously one of several that were carried on certain business and wrecker outfit cars in the early days of the D&RG RR before the advent of train dispatching telephones. These boxes were described in the writings of John B. Norwood in his

series about the D&RG RR. Greg Raven and I have been carrying on considerable correspondence with John about this subject, and it is most interesting to actually be able to view one of the genuine articles described. The reference to "B" may indicate this box was once assigned to Business Car "B". Mr. Norwood listed in his writings the various outfit cars and business cars that were assigned these boxes, although they were little used in the post-1920 period due to the installation of dispatchers telephones on most of the road, except the Narrow Gauge lines.

This box is typical of the "wrecking boxes" carried along for the purpose of establishing a temporary telegraphic connection with the railroad dispatcher, and/or Company Headquarters from a derailment, washout, rockslide or some similar happening along the railroad. In practice, these "wrecking boxes" were used whenever a situation arose that required cutting in on a telegraph wire at some location where there was no open telegraph office. An extra-board telegraph operator would be assigned to the job and would have to eat and sleep in whatever accommodations were available while on the job, usually the work train mess car and bunk cars, while keeping an ear on the Morse instrument at all times. This could be a pretty miserable existence if the weather was bad at a derailment or other work site in such an unsheltered environment. Of course, if it was on a Business Car, the accommodations might be a little more amenable, at least as far as eating and sleeping were concerned.

There was a strong anti-crosscraft labor situation that prohibited railroad employees other than telegraphers from doing the temporary telegraph jobs. Other employees, able to telegraph, but not actually employed as telegraphers, doing this work would usually cause the railroad management to not only have to pay whoever actually did the work, but also pay a duplicate wage to the next available telegrapher on the extra board as well.

The "wrecking box" was a quick solution to the need for immediate, temporary communications at some location. More permanent "offices" would usually be set up in an outfit car spotted on a spur somewhere near where the communications were needed, if the job was to require more than a few days to complete. The pictures you provided pretty well explain how the box was attached to a nearby telegraph pole. The box was simply hung by the chain around the pole and supported by the cleats on the back which rested against the pole and held the box in place. Usually the assigned operator or perhaps a lineman would climb the pole with climbing irons, or "spurs" attached to his legs and feet, and attach the wrecking clamp to the desired wire near the crossarm or bracket on the pole. Picking the right wire was assisted by the blueprint of the polehead diagrams contained in the box. Then the small wire downleads were attached to the wrecking clamp binding posts, and finally the telegraph wire was cut in the middle of the clamp to "cut in" or place the portable instrument in circuit.

When the portable telegraph office was no longer required, the circuit closer on the wrecking clamp was closed to "cut the wire through", and the downleads detached. The wrecking clamp had to be left in place until a lineman could come along and attach his tensioning strap to the wire on either side of the clamp, pull up the "slack" and properly wind a Western Union splice to rejoin the cut ends of the wire. Usually, a short section of wire would have to be put in and two splices would have to be made, unless enough slack could be pulled to overlap the cut ends of the wire six inches or more to make the splice. Note: The lineman's tensioning strap was a kind of a leather block and tackle with a special grip attached to each end which gripped the wire without damaging it, while the ends were pulled back together. Special clamps were employed to grip the overlapped ends of the wire, and twist the splice, then lineman's pliers were used to wrap the "buttons" at each end of the twisted splice. The completed splice then had to be soldered with a heated soldering copper to properly complete the work and to avoid the joint developing high resistance over time and exposure to the elements.

It sounds like a lot of work to do all this, and it was. A lineman's job was and is hard work. The wrecking box was then stowed away to await it's next duty.

Digging thru some more of my stuff, I found copies of part of an old (circa 1920's) D&RGW timetable, that showed information about telegraph office calls, wires cut in at which office, etc. In the section titled: "Telegraph Offices and Calls" under "First Division", it notes: "Telegraph Wrecking boxes located as follows: Special Cars A1, A2, A3, A4, 5, B1, B2, B3, B4, Sb Pueblo, Cuchara Jct, La Veta, Condr J.W. Donley" The blueprint of polehead drawings indicate that the box you have is definitely one of the boxes referred to above. There were thirteen wrecking boxes assigned on the First Division which takes in the all the territory depicted on the polehead drawings in your box. Now if we can just figure out which car or which place had box #34.

I took the pole head drawings and laid out a map of the wires between the various geographic locations shown. It fits perfectly with another drawing I worked out recently for all the telegraph wires west of La Veta and on over to Fort Garland, Blanca and to Alamosa over in the southern San Luis Valley and on West to Durango, Farmington, and Silverton on the D&RGW Narrow Gauge lines.

This latest information also helped me figure out what the wire numbers probably were on the old "Valley Line" that once ran between Alamosa and Mears Jct. on the Marshall Pass-Gunnison narrow gauge line. Now, if I could find another nice blueprint like that for the other Divisions on the D&RGW! I would guess that all the old SOB's who stole the neat telegraph stuff off the D&RGW and other railroads are dying now, and items like your wrecking box seem to be showing up more regularly in estate sales and the like. Lets hope that it all gets preserved and loved by someone who knows, understands and appreciates what they have.

Dave Pennes. Ref. the changes in Vibroplex bugs around 1940 and transitional-style Vibroplex bugs: In the last Keyletter, I noted that around 1939-40 Vibroplex switched from nickel plating to chrome plating hardware and bases, and that occasionally bugs from this era have hardware consisting of mixtures of both chrome and nickel. Another interesting observation regarding Vibroplex bugs from this era is bugs that have been both Japanned and then subsequently re-painted over with black wrinkle paint. I once had a Vibroplex that had an incredibly thick black wrinkle paint job, like 1/16" or more and where it had been chipped off - you could see the Japanned paint job underneath. Along these lines, I once saw reference to black wrinkle bugs with gold pinstriping, (Tony Rogozinski or Randy Cole?).

A most interesting transitional bug just surfaced at a local swap meet, consisting of a black wrinkle painted Original, S/N 112,057 (1939) with the Fulton Street address label (D3) with a mixture of both nickel and chrome hardware. The pendulum, binding post spacers, and label pins were chrome and everything else was nickel. It was uniformly nicotine entombed and all the hardware looked original and equally filthy. Most interestingly, where the paint had been worn away and the base was showing, the base was nickel plated under the wrinkle paint. Why go to the trouble of doing the extra surface grinding preparation needed prior to nickel plating a bug, then actually plating it, only to then paint it over? Answer: I surmise this was a nickel plated base they had in stock when they changed over to chrome plating bases for the new 'deluxe' chrome bugs introduced in 1939. The most cost efficient use of the base was to simply paint it over as a 'standard' (painted) model. You can't plate chrome over nickel, and removing the nickel to go through the chrome plating process probably wasn't worth the cost and effort; hence the black wrinkle paint over a previously nickel plated base. I have another black wrinkle bug with all nickel hardware from the same era and I'm almost tempted to scratch some paint off to see what's underneath.

Ref. Vibroplex bugs with labels or hardware that doesn't seem to fit the style of the bug. I've had a number of bugs over the years with seemingly incongruous ID labels, such as a chrome plated deluxe bug (post-1939) with a much earlier label dating from the 1920's. Indeed, one such bug on my 'swap list' currently has such an incongruity. I have always assumed that someone, for whatever reason, replaced the label on his bug with another label obtained from some other bug. Some such bugs have indeed showed evidence of label tampering, such as crude attempts to re-attach the labels, but others I've had over the years looked like factory label attachment jobs with the particular style of cutting the escutcheon pins at an angle for original factory label attachments. In TVC #22 (January 1998) I wrote about how very early bugs (c. 1907) in my collection didn't seem to have any real sense to the serial numbers, and how, for example S/N 1505 was actually an earlier style than S/N 1015. I surmised that assemblers simply grabbed dampers (serial numbers were on dampers then) out of 55 gallon drums when they were putting bugs together without paying any particular attention as to whether they were consecutively numbering bugs or not. I surmise this practice survived into the 1940's with respect to bug labels as the following bug illustrates.

I just encountered a WW-II deluxe 'original' with the battleship grey wrinkle paint job with S/N 112,901 (1939) and the Fulton street (D3) label. Every other WW-II style bug with the battleship grey base I've ever seen has had serial numbers in the 134-140k range (1944-45) and the 833 Broadway address. Interestingly, I also have an all-chrome deluxe bug S/N 116,141 (1940) with the Fulton street (D4) label, which I have always assumed pre-dated the WW-II battleship grey deluxe versions. Hence, I surmise that my grey-base deluxe bug S/N 112,901 is simply a c.1944-45 bug that got a 1939 label that was lying around. It was actually made later than the all-chrome deluxe bug.

My explanation for all this is that the Vibroplex folks were simply a classic small family business trying to keep their heads above water and not paying too much attention to an irrelevant detail such as whether or not the serial number on a label was exactly consecutive or not. I'm not sure why they bothered to put serial numbers on their bugs at all. Seems like an unnecessary expense that has no 'added value' to the owner or functioning in any way. If they used serial numbers in some sort of inventory-control manner it was certainly haphazard.

Early Vibroplex advertisements listed trade-in as an option, whereby you could send them your old bug as partial payment on a new improved bug (see ad on p.2 of Vibroplex Collectors guide, T. French 2nd edition). I wonder happened to those bugs that got sent back to the factory? Were the parts re-cycled onto current production bugs, accounting for the occasional really old piece showing up on a newer bug (TVC #3 p. 10)? Were the labels ever re-used? I suspect some of the incongruous bugs I've seen over the years may have been "mules" (keys assembled from random components) composed of old and new parts from factory reconditioning or randomly chosen labels.

Is all this counting rivets? Yes. Does it matter? Yes! I think that some of the mules I've unloaded at swapmeets over the years were factory originals composed of parts of different eras with incongruous ID tags.

John Francis. I've had a few keys and items added to my collection over the past year or so, including a Tillotson legged camel back, stamped 8 Dey St New York, serial # 515. This was given to me by a pal with whom I served with in government communications out in Cyprus. Looking at Roger Reinke's list of American Telegraph makers I am unable to ascertain if this key should be dated 1865 before he moved to 26 Dey St., or when he was again at 8 Dey St., in 1872-1880. Does anybody have any idea's on this one?

A couple of weeks ago I purchased a Bunnell-Martin Flash Key, Type 5-48. I am assuming that the date for this key would be somewhere between 1940-45. A couple of pictures in the various book's on keys, show it as having a rounded frame as on the Vibroplex original. This one has a kind of fluted frame. Were there two styles, or are the photographs deceiving me? The photograph (fig 3.11 page 27 in Louise Moreau's book *The Story of the Key*) seems to be correct.

Ref. Tom Perera collectors guide, second edition, page 35, regarding the Eddystone bug. It has been confirmed by the Eddystone Company that only 500 of these keys were ever made, in two production runs of 250 each. However, I know what Tom means as I myself went some time trying to acquire one and now have five, including one of the rare grey finished ones.

Ref Collin Mackinnon's most interesting piece on the Buzza bug key. I have a Buzza "Automatic Key No.100". This key was used at the Sydney Maritime Coast Radio Station, VIS. It also has the red fibre thumb lever. I got it from a chap who emigrated to Australia after WW II. On his retirement he returned to the UK and I acquired his key. He told me that he had it new and that the red fibre thumb piece was original.

Ref. the Australian Simplex Auto bug key. I have the "original" and the "new improved model". I did not know that there were four different varieties. I guess the original must have been produced prior to it being accepted as the Australian Post Office's preferred key for use on their circuits in 1923, but what year did the new improved model appear upon the scene and what year did production cease? Perhaps your Australian connection might know.

With reference to Keyletter #24 page 257. The MSK-5 produced by OZ7BO was sold in the UK by XB-Electro, who was Stan Cook G5XB now a silent key. From what I remember Stan did not sell very many of them. I had the previous model to the MSK-5 which I got rid of. Why do we always say, years later, "Why the heck did I get rid of that"? Funnily enough I took over from Stan Cook when I went to work for the BBC Monitoring Service.

What I really want to obtain (then I may give up key collecting having achieved my greatest aim) is a bug with a J. E. Albright "license Plate".

Murray Willer. Ref. the item in Keyletter # 28 regarding the model 310 Nye keys which were gold plated by a Phoenix specialty firm. I am sure I have one, given to me by a Canadian radio amateur who said it was presented to a fellow who had either exceeded his sales quota or was leaving the company. The key is mounted on a walnut base 3 x 5 ½ x 3/8-in with a small nameplate about-2" X 1" mounted on the base which is inscribed "TELXON RETAIL TECHNOLOGY GROUP". It appears to be a presentation gift, and it is nice to have a gold plated key in the collection.

I picked up a couple of miniature keys at the AWA flea market and an early German post office key and a WT 8 AMP that looks like a New Zealand WT 8 AMP that I picked up last year. When I was able to examine this key and compare it to the New Zealand WT 8 AMP acquired last year, I realized there were a number of minor differences, enough to make me suspect that it was made by another company, perhaps an Australian company, so this will require some more WT 8 AMP research. As I recall from the MM summary, there were two or three companies in Australia making WT 8 AMPs during WW II.

My prize acquisition was a signal projector off a U.S. destroyer. This signal projector is a searchlight, 8 inches in diameter, with a built-in Venetian blind type of shutter operated by an external lever for Morse code. I expect you have seen them on naval vessels. Anyhow it certainly enhanced my trip to the AWA. When I got home, the first thing I wanted to do was to take the signal projector all apart. It is really well made and fairly new and has an 8 inch sealed beam lamp 28 volt 250 watts which would probably have a good 10 mile range. It has a built in transformer, 115 VAC - in, 28 volts out for the lamp. But just to be careful, I first connected the lamp to a 12 volt supply. Well what do know ... smoke immediately filled the lamp and in seconds the filament was gone. I uttered some expression like "darn". Somewhere along the line, the glass sealing tit had broken allowing air to get in. Fortunately, the navy had used a standard GE aircraft landing lamp, and after a couple of phone calls to some aircraft suppliers, I was able to find a replacement.

Russ Kleinman. Re the Slaby Arco "Smokestack" Spark Key handle. I asked about that once, and got a reasonable answer from an old old timer that fits. The Slaby-Arco key on the webpage came from a German airplane of some sort according to the owner. The old old timer told me that many keys of that vintage were outfitted with handles like that to be used in airplanes. He said they vibrated so badly that it was the only way to hold on to the key well enough to send with it. He said that most keys used with spark in airplanes either had that kind of handle or the really big "smokestack" kind of handle that you could grab.

Russ, I also suspect that some of the early airborne keys had large knobs because they were used in open cockpit planes, and the operators were wearing gloves. Take a look at the knobs on the J-5A keys. (N7CFO)

Richard Loveland. I think that I got my first J-38 key about 1948 or earlier when they were selling for about ninety-five cents each. Through the years, I have obtained several others, including one by Lionel. I was always a bit curious about the design of the J-38. As a railroad telegrapher I was quite accustomed to using keys with a circuit closer (also known as a shorting switch). Such keys have long been used on American land-lines operated on the closed circuit principle by their owners such as the Western Union Telegraph Co., the Postal Telegraph-Cable Co., AT&T, the railroads, pipelines, stock brokers, the military, and the press associations including those who ran the horse wires. But, I wondered, did the army really have so many land-lines that they needed all those J-38s? And even if they did, why didn't they just screw the key frame to the mounting surface the way the railroads and the Western Union did? Why did they need the bakelite base and the link with two extra binding posts and the little screw-eye on the left side?

I understood how one might connect a Morse set into a loop by terminating the two wires of the loop to the right (LINE) terminals and two leads to a relay or main line sounder to the left (TEL.) terminals. But it seemed it would be simpler and more reliable to run the loop leads directly to the relay or sounder and simply cut one of them and attach the two ends to the binding posts of the key. So why not do it that way and eliminate the bakelite base, the link and the extra binding posts? A few days ago I found an answer in War Department Technical Manual TM 11-432 "Code Practice Equipment", February 2, 1942, that described installation, wiring and operation of oscillators, amplifiers, code practice keyers, switchboard and code practice tables. On page 18 I found: "Mount a key J-38 at each student position as shown in figures 6 and 13. .... Connect a headset HS-16 to each key J-38 as shown in figure 13. Tie the stay cord on the cord of each headset HS-16 to one of the key terminals on key J-38 .... connect the student line terminals on the keys J-38 to student line terminals 1 through 20 on switchboard BD-57-A."

Figure 13 showed the line wires connected to the two right-hand (LINE) terminals of the key and the headset leads connected to the two left-hand (TEL.) terminals of the key. So, I finally realized, "TEL." stands for "telephones" referring to the headphones of headset HS-16 and not for a telegraph relay or sounder. It also became clear that it was NECESSARY to have four terminals on the key: two for the solid twisted pair for the student line and two for the tinsel or stranded leads of the headset. Not only that, the little screw-eye on the TEL. side could serve as an anchor for the stay cord that would keep the strain off the headset leads if the student accidently pulled too hard on the headset cord.

But why have a circuit closer in an (audio) CW application? The manual answers that question too. First, the tone can be keyed by an automatic keyer to give the students practice in receiving. Each student must close the circuit closer on his key in order to hear the signals coming in on the line. Second, each student may send to himself if the tone is steady (not keyed by the automatic keyer) and the student opens the circuit closer and operates the key. Third, by using the switchboard, two or more student positions can be connected in series with a steady tone source. The manual gives an example: "The students at positions Nos. 1 and 5 are now connected in series and either may transmit to the other so long as the other's key is closed. Such a transmission is interrupted when the receiving student opens his key. Assume that it is desired to interconnect all students for net operation. .... All students are now connected in series and as long as the keys of all other positions are closed, any student may transmit to all others. If any other key is open, the transmission is interrupted."

Finally, it occurs to me, that as "Many are called, and few are chosen", there were probably many more students than there were qualified graduates of the code training process. Hence, many keys J-38 were in service in the army's radio schools that became surplus at the war's end, while the keys associated with actual radios in the field were probably fewer in number and may have been kept in service if they had not been destroyed or abandoned.

***The Victorian Internet*, a book review by Marshall Emm.** I recently had the pleasure of reading a book called The Victorian Internet, by Tom Standage[2]. It gave me a lot to think about and is well worth reading. It's an enjoyable history of telegraphs and telegraphy, but its true value is in providing a perspective for viewing today's developments in communications. Often book reviewers in magazines and newspapers take the liberty of using the "review" format as a platform for their own thoughts, and that's what I plan to do here!

The basic premise of the book is that the "mother of all networks" was the telegraph network which began before the Civil War and continued to develop into the 1920's. Standage sees the telegraph network as a model for the Internet and there are indeed many similarities. The Internet is often cast as a revolutionary mode of communication, with far-reaching social, political, economic and moral implications. But if you look at it as a logical extension of technology, the Internet is evolutionary rather than revolutionary. In contrast, the introduction of the electric telegraph was truly revolutionary. That word "electric" is very important, because the earliest "telegraph" systems were in fact not electric, and were limited to line of sight. The first was demonstrated in France in 1794, and the french gave it the name "telegraph," but it used moving signal arms, was limited to line of sight between stations, and hence really it was just an improvement on smoke signals and beacon fires. It took another fifty years of development before the electric telegraph came into being, but once it did the development of true networks was immediate, explosive, and with far-reaching consequences.

For literally thousands of years, communication between people who were at some distance from each other was essentially limited to what could be carried by a messenger on foot, on horseback, or by boat. Beginning in 1844 networks grew like a virus, spreading along highways and railroad tracks and crossing the oceans at a rate that would have been simply unimaginable fifty years earlier. Not only was this the first rapid deployment of technology in the history of mankind, the telegraph itself became the medium for propagation of later technologies. That's a process that is still evolving today, and it's at the heart of the Internet.

In 1844 the only telegraph line was Morse's demonstration line between Baltimore and Washington, a distance of 40 miles. Six years later, according to the US Census of 1850, there were already 12,000 miles of telegraph lines in use. Governments tried very hard to control them, dictating who could send telegrams, who they could be sent to, what could or could not be said in a telegram, how much they would cost, and of course there were taxes. But ultimately governments failed to control the telegraphs and left most of the details to the telegraph companies. The obvious parallel here is current governmental interest in controlling the Internet, while in practice the only controls are imposed by Internet service providers.

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[2] The Victorian Internet, by Tom Standage. Walker and Company, New York, 1998.

The great telegraph networks were never really replaced by but evolved into the wireless networks and telephony networks. Just as the original electric telegraph depended on Samuel Morse's code, so did the evolution of radio-communications, and later digital communications. It sounds clever to say that Morse was the original digital mode, but it's literally true. Morse uses a simple binary state to store and carry information, and that is exactly what all those gigabytes of "ones and zeroes" on your hard disk and DVD are using.

If you want to, you can use any of the existing means of communication to carry a message in Morse code--and that's a real lesson in "backwards compatibility." There is actually a large group of former (and aging) telegraphers who use the telephone system to hook up keys and sounders, keeping the art alive with the aid of Ma Bell. I believe they are working on ways to do it via the Internet even now.

So at last I am maybe getting to the point here, and that is simply this: Morse code is at the root of all of our means of communicating with each other beyond the range of the human voice. Have we outgrown it? We may think we have, but then again we have a lot of strange ideas about ourselves and our role in the universe. Certainly we have isolated ourselves from the technology, for the most part, and few Internet users ever think about how they are still really working with ones and zeroes. But I've done exhaustive research and discovered that in the history of the development of travel, from horseback, to train, to car, to airplane, not once has it been suggested that we might as well cut off our feet. Maybe we don't use them as much as our forefathers did, and maybe we can survive without them, but it is comforting to know we can walk a couple miles if we have to. (Reprinted with permission from *The Low Down*, journal of the Colorado QRP Club.)

***Atlantic Sentinel*, by Donald R. Tarrant.** An undocumented aspect of Newfoundland's history is its role in transatlantic communications. During the 1850s, Newfoundland played a leading role in attempts to bridge the Atlantic, as its location made it the natural choice as the western terminus for transatlantic cables. *Atlantic Sentinel* traces the history of transatlantic communications and focuses on the critical role that Newfoundland played in transatlantic telegraph communications and chronicles the submarine cable landings in the province. *Atlantic Sentinel* is illustrated with sixty vintage photographs and maps. The illustrations range from sketches of the early transatlantic attempts in the 1850s and 1860s to photographs of cable station staff in the twentieth century. The book contains 160 pages as well as a comprehensive index. *Atlantic Sentinel* is available from Newfoundland bookstores or from Flanker Press Ltd., P.O. Box 2522, Station C, St. John's, Newfoundland, Canada, telephone 709-739-4477, email: flanker@roadrunner.nf.net.

MORSECODE Bits and Pieces.

Blue Racer Paint. I was cleaning up in the garage last night, and I came across something I forgot I had. It's called a "Bleaching Lamp", a very strong source Ultra Violet light. Recalling Randy's proposed experiment to see if a Blue Racer would glow bluer under UV light, I grabbed two racers from my collection. one had the very dark cobalt blue finish, one had the old black japan finish. Results? The Blue Racer definitely looked bluer under the strong UV lamp. You could really see it clearly, especially on the bottom. It wasn't fluorescent or anything, but it was noticeably bluer. Under standard incandescent lighting, both bugs looked pretty much the same. *(Doug Palmer)*

Gemkey. I have a bug which as far as I know is the only one in captivity. I bought this a few years ago at a NH antique radio meet, looking new in the original cardboard box. It is called a GEMKEY and was made by the General Metalcraft Co. of Brockton, Mass. It's sort of a toy bug, since all the parts (except the hardware, pendulum and weight) are sheet metal. The base, frame and levers are sheet metal, properly folded for rigidity etc. The black base is folded to resemble a regular size base (like a chassis...) It looks like it was offered to young boys interested in radio and signaling; there's a picture of a youth on the box looking longingly at his cheap, junky Gemkey. No idea of age, I would guess this was made anywhere from 1930s to the 1950s. (*Tom French*)

Straightening bent sounders. I've found that work-hardened brass can be annealed to make it softer. If you carefully heat it with a propane torch until it glows red and then let it cool slowly (do NOT dump it in water), it will be less brittle. Then, after it cools, you can very gently tap it back into shape. (*Vic Rosenthal*)

TAC J-38. First, Steve turned up a nest of McElroy J-38's at Dayton and now I just found the very first McElroy / Telegraph Apparatus Company (TAC) CAPH 26012B that I've ever seen, and, amazingly, it is new in the original box - with the original label. Thanks to Neal McEwen's list of Navy Codes, it is easy find out who made any key that carries such a code. Thus, any key with CAPH, CAPZ or CMK was made by McElroy or his Telegraph Apparatus Co. The contract number on the box indicates that it was made in 1944 which is useful info in trying to reconstruct Ted's activities during the war. As Steve pointed out with respect to the McElroy J-38 keys, the machining is a bit 'rushed' with, for instance, the word 'GND' only very lightly stamped into the left trunnion support. Tom French says that he thinks that there are McElroy J-37 and J-45 keys out there so take a look when you get a chance. (*Tom Perera.*)

Western Union Hock shop? I used to sit with my uncle a baseball and basketball games while he sent brief, up to the minute, news of the event. He was an Western Union telegrapher before becoming their chief property appraiser. He kept up his skills with Morse by attending sporting events but his real job was to appraise jewelry and valuables taken in at Western Union offices all over the world. People would want to wire money to relatives and all they had was valuables - usually jewelry. Uncle would appraise it over the phone or in person. Of course, most people never came back to trade the jewelry for money so the company got to keep it. I remember him telling my mother to buy a diamond ring, with a 1.2 carat flawless diamond from the company and the asking price was something like $250. The company had loaned $125 on the ring, so they were happy to make 100% markup but we got a multi-thousand dollar ring for peanuts. (*Cliff Wesler*)

Vibroplex. Friends, I received this email from a real OT. It confirms what we have heard about the size of the Vibroplex operation. “Sometime in the late thirties when I was in New York, I met a man whose name was Martin and was the son of the inventor. He had just started to manufacture bugs and the nameplate said martin. it looked somewhat similar to the original. I did not buy one and have never heard of his company since. I wonder if you have? By the way, in 1930, I used to pass the store on Broadway which was the Vibroplex office. They had only one Vibroplex in the window but many typewriters." (*Neal McEwen*)

Vibroplex B3A nameplate. The following is an exchange about a Vibroplex nameplate variation on a bug being sold on eBay.

- Puck Motley: According to Tom French's book "Vibroplex Collector's Guide" p. 104 the B-3 label was "used on Model X keys only". Well, this is an Original sn 20470 with the flat top damper and a B-3 Label. Anyone else have a B-3 label on a key other than an X model?

- Gerry Maira: I have an original, SN 20,588 with the same type of label.

- Tom French: I contacted the seller and found out that it is the usual flat-top damper with the adjusting screw in the swing-arm; the serial number is not inside the frame of the damper like other (50000 series) I have seen, but is on the bottom of the damper frame, facing the operator.

- Gerry Maira: Randy Cole has one too, on the Vibroplex Collector's Page. His is SN 20,684.

- Randy Cole: Mine is like Gerry's and the one pictured on eBay, but mine does indeed have a nameplate that seems to lie between the B-3 and B-4 nameplates, as Tom French mentioned several weeks ago (sorry for the slight delay). John Elwood's serial number list implies that somebody has a bug with S/N 20800. If that's the case then the transitional B-3 to B-4 nameplate is found on no more than 212 known bugs (20800 minus 20588 equals 212). OK, Tom -- What are we going to call this nameplate?

- Tom French: From patent dates and the trademark number, and from your SN (comparing the B3 on eBay and Gerry's), it is clear that this NEW plate lies between the b3 and b4. What to call it? In my own notes I have been calling it a B3A. I think it is rare enough that this nomenclature wouldn't be burdensome.

Hills Vari-Speed.

- Don Karvonan: Recently I had a long chat with an old timer who used to live about a block away from J.A. Hills in the 1950s. This fella even helped Joe Hills produce some of the advertising brochures for his FYO paddles. He told me that Hills only produced 3 dozen of the "round shaft" Vari-Speed models, and quite a few more of the flat shaft (ala Lightning Bug, etc) models. This was due to lack of demand for these neat little items. Lynn has a 1/54 QST ad on page 67 of the "N7CFO Keyletter" where the Vari-Speed is priced at "$1.50 postpaid anywhere in the U.S." Sure seems that people really missed the boat with the Vari-Speed, as it really makes changing speeds on a bug a simple operation. The OT was quite sure about the 3 dozen figure for the round shaft variation. Does this sound right? How many Vari-Speeds are out there?

- Tom French: This is the first confirmation I have heard that Hills made a flat-shaft Vari-speed. It is good news, because I have one. I found it on a Vibroplex in an antique shop -- I bought the rig for the Vari-speed, and not for the bug! I also have one round-shaft Vari-speed. It is surprising that fewer of these were made, since the Original would seem to have been a more popular bug. My "introduction to key collecting" (out of print) references the only ad I found on the vari-speed.

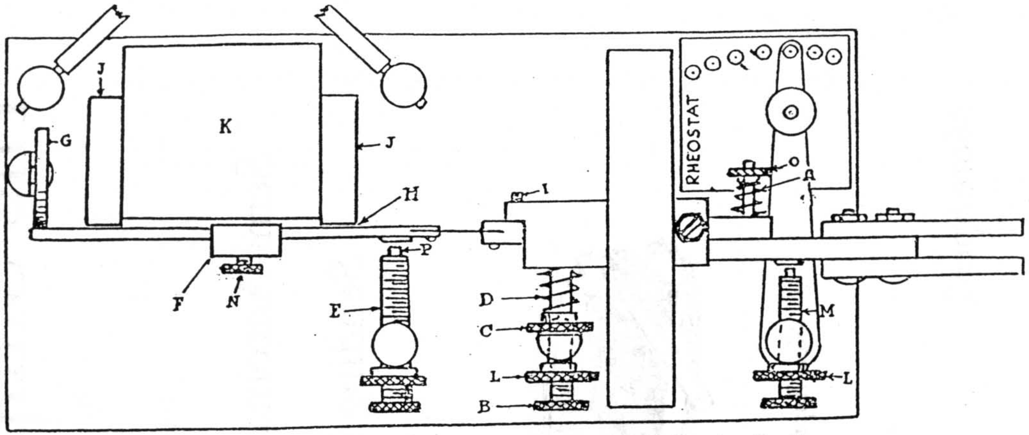
- Randy Cole: I have a round-shaft Vari-Speed that I bought from your OT friend a couple of years ago. I had a couple of long enjoyable phone conversations with him but I don't think he ever told me that only 36 of the round-shaft version were made, and that there was a flat-shaft version.

Well, that is it for # 29. Expect to see #30 out before the first of the year. I have about a dozen pages transcribed from *The Western Union Telegraph Company Inside Plant Catalog of Apparatus, Material and Tools* dated July 1, 1929. The master book is 180 pages, and Richard S. Loveland, N3IA, is hand-transcribing it and extracting the portions that pertain to equipment. This is some fascinating reading, and it is sure to send a lot of readers scrambling to look at their old WU equipment.

73 de N7CFO

Lyn

CUT NO. 1



A—Dash tension spring
B—Reed travel control
C—Dot tension spring carrier
D—Dot tension spring
E—Dot Screw
F—Speed control weight
G—Deadener wheel
H—Air gap
I—Reed adjusting screw
J—Pole pieces
K—Electro-magnet
L—Lock nuts
M—Dash screw
N—Weight screw
O—Dash tension spring nut
P—Dot contact plunger

DIRECTIONS

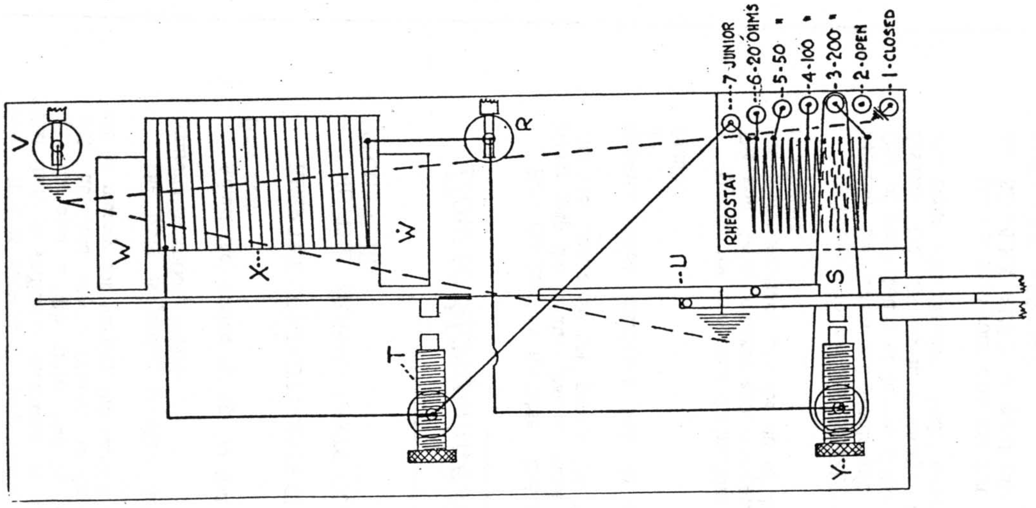
Loosen lock nut L on screw B, run B in until touch suits you. Do same with screw M; tighten L nuts.

Adjust dot screw E until dots are (right). After this, to make dots heavy or light, run screw E in or out or by very slight turn on screw B (This is the better way). To make soft or stiff in dot direction, run nut C in or out; in dash direction, nut O in or out.

IMPORTANT—Reed must rest against deadener wheel G when idle—run adjusting screw I out until it does. Rear hole through handles slotted. They can be adjusted, both up, both down or one up, other down.

Parts and adjustments except H, J, and K, apply to Electro Bug Junior also. Order parts by letter, thus: One screw E complete.

CUT NO. 2



Cut No. 2 shows wiring diagram and details of rheostat and electro-magnet.

Current enters at binding post R, splits at this point, part or all (depending on position of switch) flows through magnet to post T, balance through wire to post Y and switch S, through rheostat to post T. When dot contact closes, flows through reed U and base (shown by dotted line X) to and out at binding post V. Switch on point 1 circuit closed, on point 2, open and ready to "send", all current flowing through magnet. Point 3 current divides, 33% through rheostat, 67% through magnet. Point 4, 50% through rheostat, 50% through magnet. Point 5, 67% through rheostat, 33% through magnet. Point 6, 80% through rheostat, 20% through magnet. On point 7, magnet is shorted out entirely, converting to mechanical vibrator (Electro-Bug Junior).

Reducing amount of current flowing through magnet reduces "pull" on reed and is equivalent to adjusting the magnet itself as a relay is adjusted. This also give us the advantage of reducing the resistance of magnet (by law of joint resistance). For instance, with switch on point 6, joint resistance is 16 Ohms, with only 20% of current flowing through magnet, which meets conditions of wireless locals, low voltage duplex locals, etc.

It will seldom be necessary to use any point except No. 2, which meets average conditions of Railroad wires, but if "pull" is too hard, move on down with the switch—there is a point for EVERY condition you will encounter.

ELECTRO MFG. COMPANY
Box 582. Fresno, Calif.

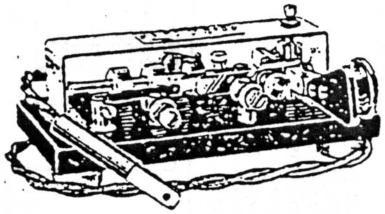
Courtesy of Tim Patton

The Simplex Auto

(REGD.)

—ɵ—

Semi-Automatic Telegraphic
Sending Machine



New Improved Model.

—ɵ—

More Speed

Less Effort

Strong Carrying Signals

To regulate the speed of the dots move the weights along the bar of the vibrator.

The vibrator must vibrate without bumping against the releasing arm. If it is allowed to bump a false dot will be the result. See that there is sufficient clearance to prevent this. Should it bump give the arm a little more play by slightly unscrewing the outside lock nut and screw situated to the left of the lever. The inside nut is merely for varying the tension on the dot side of the lever.

The lever is jointed to allow the handle to be adjusted to a comfortable working height.

Adjust the tension springs so that the touch of the lever handle feels best.

KEEP THE CONTACT POINTS CLEAN.

OIL THE MOVING PARTS OCCASIONALLY WITH SEWING MACHINE OIL.

How to Manipulate the Simplex Auto

Rest the hand on the table. Use a wrist not a finger movement. Never grip the handle—that is, when you are pressing the dot side with the thumb do not permit the fingers to touch the dash side; likewise when making a dash do not touch the dot side with the thumb.

Do no try to operate the machine with merely a finger movement. The arm, being quicker and stronger, makes the manipulation easier and more accurate. Use the tip of the thumb and the tips of the first two fingers.

In learning to use the SIMPLEX AUTO make plenty of space between the letters and words and make dashes of ample length. One of the beauties of Morse is the correct timing of the spaces and dashes. Do not be in a hurry. Accuracy is the thing. Speed will come with practice. Make clean cut even signals your objective.

Do not have your dots too fast. In adjusting the dot speed of the SIMPLEX AUTO a good rule is to imitate the sending of a strong clear hand sender.

The safety cover makes it impossible for the SIMPLEX AUTO to get accidentally knocked out of adjustment, but it is a good idea to occasionally test the adjustments.

Do not permit others to use your machine or to change the adjustments.

Courtesy of John Francis